degree C
DEGREE CONTROLS, INC.

user manual

°C Breeze

Condensed Moisture Airflow Visualization

The Complete Fog Generating System

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°C Breeze

Condensed Moisture Airflow Visualization System

Thank you for choosing Degree Controls, Inc. °C Breeze Fog System. °C Breeze is ideal for tracing air movements and is a sturdy and portable state-of-the art fog machine. To ensure optimal performance of your unit please follow the suggestions in this user manual.

Important Notes & Warnings

- Keep this device dry.
- Always remove the battery or unplug the power adaptor to your °C Breeze Fog System before filling the liquid tank.
- Keep the unit upright.
- Remove the battery or unplug the power adaptor when not in use.
- This machine is not water or splash proof. If moisture, water or fog liquid gets inside the housing, immediately remove power and contact Degree Controls, Inc.
- Never leave the unit running unattended.
- Keep nozzle at least 20" (50 cm) away from contact with anything while in operation.
- The fog vapour at point of release is under pressure and is hot.
- Never aim the output nozzle directly at people.
- Use in a well ventilated area. Never cover the vents on the front of the °C Breeze. Never aim the output nozzle at open flames.
- The output nozzle becomes hot during operation. Keep flammable materials at least 20" (50 cm) away from the nozzle.
- Always allow your °C Breeze to cool down before attempting to clean or service it.
- Do not expose the battery to excessive heat, keep away from open flames.
- Only use the supplied °C Breeze Fog Fluid.
- Always make sure there is sufficient liquid in the liquid tank. The fluid level can be monitored via the window at the back of the machine.
- Operating this unit without Fog Fluid will cause damage to the pump and the heater.
- If your °C Breeze fails to work properly, discontinue use immediately. Drain all Fog Fluid from the tank, remove battery, pack the unit securely (preferably in the original packing material) and return it to Degree Controls, Inc. for service.
- Always drain Fog Fluid from tank before shipping or transporting this unit.
- Never drink Fog Fluid. If it is ingested, call a doctor immediately. If Fog Fluid comes in contact with skin or eyes, rinse thoroughly with water.

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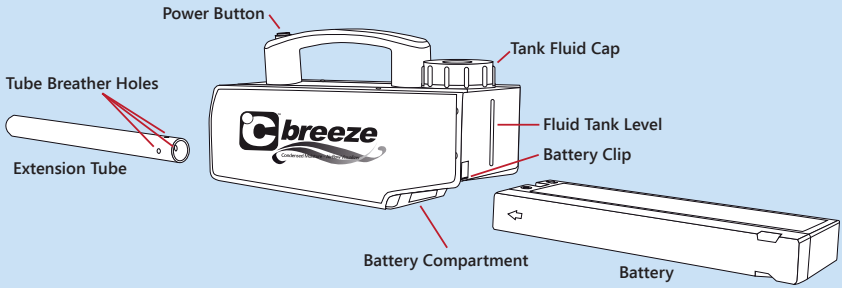
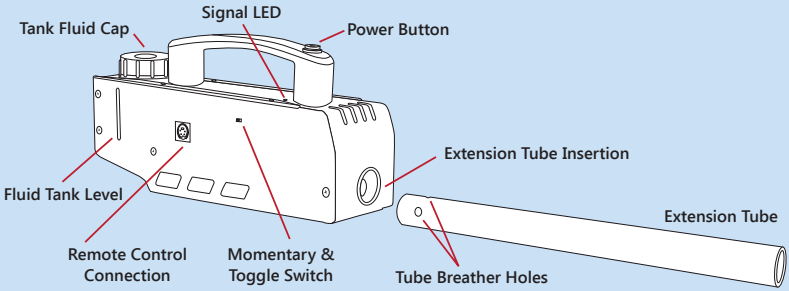
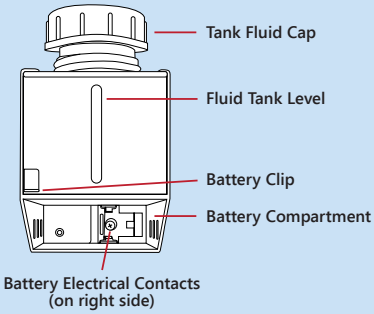
°C Breeze
Leftside View



°C Breeze
Rightside View





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Title: °C Breeze Condensed Moisture Airflow Visualization	Project Number: NPI Group - MS190
	Part Number: NPI Group - MS190
	Part Revision: R01
DO NOT SCALE DRAWING / Scale: 1.000 / Size: B	Drawing Sheets: 1 of 1

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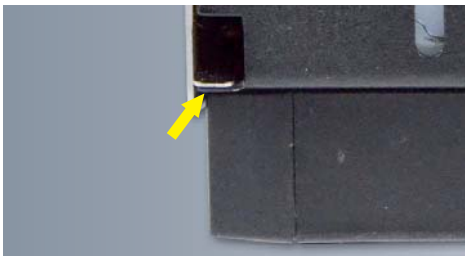
Unpacking & Inspection

Open the shipping carton, open the flight case and check to see if all equipment is inside and intact. If any of the equipment is damaged or not working properly, contact Degree Controls, Inc. immediately. You should have received the following items:

- °C Breeze fogger
- Application tape
- 12V rechargeable battery
- Battery charger and international plugs
- 500 ml bottle of °C Breeze Fog Fluid
- °C Breeze user manual
- °C Breeze Material Saftey Data Sheet (MSDS)
- Carrying case

Filling the unit.

Battery.



Battery Insertion & Clip.

Note: Battery requires 8 hours charging time on the first charge.

Setup

- Remove all packing materials. Check that all foam and plastic padding is removed, especially in the nozzle area.
- Fill the unit with °C Breeze Fog Fluid. When filled, place cap back on liquid tank and tighten.
- Charge the battery. Plug the adaptor into a grounded electrical outlet. The green light on the battery charge will light up when it is connected to the power supply. Then connect the charging head to the battery. The battery will be fully charged in approximately 2-3 hours thereafter.
- The charge will last between 10-12 minutes of constant fog output before needing to be recharged.
- Align the °C Breeze charged battery with the electrical contact of the battery on the right hand side of the center line.
- Lift the silver Battery Retaining Clip on the rear face of the °C Breeze.
- Slide the battery into the °C Breeze, pushing it all the way in.

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Operation

The °C Breeze operates with or without the extension tube. The unit can be operated instantly, as no warm-up time is required, and has two modes of operation; ***Momentary*** (←) or ***Toggle*** (→). To select the Momentary mode, slide switch on the right hand side of the machine to the left towards the reservoir (fogs only when the button is held down). Select the Toggle mode by sliding the switch to the right towards the fog outlet (pressing the fog button once starts fog, pressing again stops fog).

- Start fog by pressing the button on the handle. The LED will flash green, and after 1 or 2 seconds fog will be produced.
- The °C Breeze will fog continuously until the button is pressed a second time (if ***Toggle***) or until the button is released (if ***Momentary***). The Green LED will continue to flash for approximately 10 seconds after switch off.

Battery:

- When the LED turns Red the battery needs to be charged. The machine will still be able to produce fog for a short period of time after the red light begins flashing.
- ***VERY IMPORTANT -*** to give you optimum battery life, remove the battery from the °C Breeze when you are done using the machine. To remove the battery lift the silver Battery Retaining Clip in the back of the °C Breeze and then pull the battery out.
- The machine will fog until the battery charge runs down or the °C Breeze runs out of fog fluid. When the °C Breeze is connected to the optional power adaptor, carefully monitor the level of the fog liquid to make sure the machine does not run out of liquid. A full fluid reservoir is equivalent to approximately 50 minutes of fog.
- A full battery will power the °C Breeze for a period of 10-12 minutes before needing to be recharged.

Fog Dispersion:

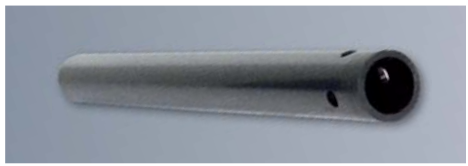
- The machine can be operated at an angle that ensures the fog fluid in the bottle is drawn into the machine. In practice this means that, provided the reservoir is full on the sightglass the unit can be used to generate fog ±45° from the horizontal plane. Before using the machine make sure that the filler cap is tightened!

Toggle Action.

Push Button.

Important

- Always monitor tank fluid levels as you are producing fog. Running the °C Breeze without fluid can permanently damage the unit.
- If you experience low output, pump noise or no output at all, remove the battery immediately. Check fluid level and recharge the battery. When the liquid tank is full and the battery is charged, plug the battery in and press the button on the handle.
- If the machine is still not working and you are unable to determine the cause of the problem, do not open the case. There are no user serviceable parts inside. Return the machine to Degree Controls, Inc. for service.



Extension Tube

- If fitting the extension tube for precise fog placement, ensure that the tube's breather holes are at the end closest to the machine. They are designed to draw air into the vapor stream and help the formation of fog.
- A small amount of deposition will occur over time in the extension tube, due to the restriction of the fog particles. ***Always clean the extension tube after use.***

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Optional Full Time Power

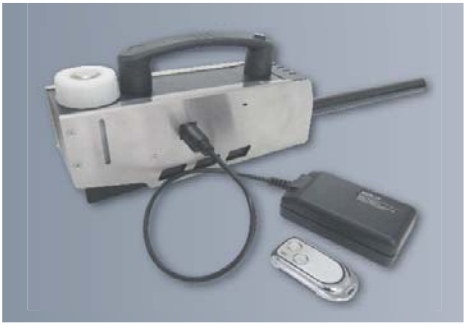
When desired the °C Breeze can be powered by an optional power adaptor which plugs into a standard electrical outlet. The adaptor connects to a dummy battery which plugs into the battery slot on the °C Breeze. This allows for extended operation of the °C Breeze.

Power Adaptor.

Optional Remote Control Operation

An optional Wireless Remote Control is available from Degree Controls, Inc. If using the Radio Remote always ensure the battery is fully charged or use a direct power adaptor with dummy battery. Always ensure the °C Breeze has sufficient fog fluid. Using a miniature screw driver, adjust the Slide Switch towards the reservoir (as indicated by the yellow arrow - this is the ***Momentary*** fog mode).

- **Preparation:** Connect receiver to °C Breeze as shown.
- **To Make Fog:** Press the **A** button on the remote.
- **To Stop Fog:** Press the **B** button on the remote. Fog will stop within 10 seconds. Remove the receiver from the °C Breeze when not in use. If you wish to maintain Momentary position (so the fog generation will only produce fog when the fog button on the handle is depressed) leave the Slide Switch in the position detailed above. If you require the fog button on the machine to latch on, put the Slide Switch away from the reservoir in the Toggle position.



Remote Control Operation.

If you require the fog button on the machine to latch on, put the Slide Switch away from the reservoir.

Performance Notes

- All fog machines develop condensation around the output nozzle.
- The °C Breeze may produce small puffs of fog occasionally during operation and for a minute or so after being turned off. This is normal and is not indicative of a defect.
- After continuous operation, the exterior of the °C Breeze will become warm, especially at the front of the machine. Take care in handling the machine during and shortly after fogging. Only carry the °C Breeze by the handle and let the machine cool down before packing it in the carry case.
- As the battery becomes discharged and weaker, a pumping noise or puffing of fog may become more prominent.

Specifications

- **Output:** 2.8 m^3 (100 ft^3) per minute
- **Power Consumption:** 75 W
- **Tank Capacity:** 110 cc (3.7 oz)
- **Battery (Supplied):** 12V DC/2.3Ah
- **Consumption:** 2 cc (0.07 oz) per minute
- **Weight:** 2.7 kg (95 oz)
- **Dimensions:** 227 mm x 66 mm x 81 mm (8.9 in x 2.6 in x 3.1 in)
- **Input:** 100-240V ~2A, 50/60 Hz
- **DC Output:** 12V/5.8A Max: 70 W
- **Fog Fluid:** Propylene Glycol
- **Fog:** Condensed Moisture Vapor
- **Bottle Volume:** 500 ml ~25 hours of continuous operation

This Product Uses Propylene Glycol

Use only Degree Controls, Inc. °C Breeze Fog Fluid in this device. Propylene Glycol is the main ingredient and can be purchased in many similar forms for a variety of applications, but only the °C Breeze Fog Fluid meets the purity and pharmaceutical grade quality appropriate for the °C Breeze Fogger. The use of other chemicals will invalidate the product warranty and may be dangerous to your health.

Propylene Glycol is an additive used in many consumer and pharmaceutical products including; lipstick, cosmetics, processed baked goods, fruit juices, animal feed and veterinarian products. It also creates the inhaled mist that is found in many e-cigarette devices. When propylene glycol is used in pharmaceutical applications, strict specifications for quality as laid out in the European Pharmacopoeia, have to be followed. This official document of the European Directorate for the Quality of Medicines (EDQM) is used in more than 37 countries in Europe. In the US, propylene glycol is listed as GRAS – Generally Recognized as Safe – for use in food and pharmaceuticals in the US-Pharmacopoeia (Ref21CFR), the official FDA (US Food & Drug Administration) document. It has been extensively studied and its toxicology has been summarized in a SIDS Initial Assessment Report (SIAR) with a recommendation for no additional study.

Derivatives of Propylene Glycol are also used in Automotive Antifreeze, Commercial Cooling Systems, and de-icing of planes in the Aerospace Industry. Be sure to use only Degree Controls, Inc. Fog Fluid in your °C Breeze device. Proper use of the °C Breeze Fog Fluid is safe and harmless to individuals. Refer to the °C Breeze User Manual and MSDS (Material Safety Data Sheet) included in your kit or download it on-line at www.degreeC.com.

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About Us

Degree Controls, Inc. has been measuring air velocity and illustrating Airflow since 1997. Our expertise is proven and well-known within the Medical, Telecommunications, and Building Services industries. As Air Visualization experts, we quantify airflow with empirical data acquisition systems and optical recognition.

We have a complete line of environmental sensors, DAQ software applications, and handheld instruments to help you measure the air around you.

Certifiers

- Help your clients upgrade existing equipment to meet regulatory standards.
- Integrate multiple feature-specific airflow alarm systems at lower overall costs for your client's facility.
- Develop client loyalty by providing cost-effective, easy to install, maintenance free Alarm Monitors.
- Highest reliability, for safety you can depend on.

Biosafety Cabinet, Fume Hood (Critical Containment) Manufacturers

- 16 years of experience in airflow and fan/blower control technologies.
- DegreeC's Cambridge Accusense™ an industry leading technology in airflow, temperature, and humidity sensors.
- Test and validation data collection with graphical display for system design engineers and regulatory compliance.

Facility Managers, EH&S & Safety Compliance

- Purpose-built monitor and alarm systems to meet OSHA, NSF and USP regulations.
- Easy to install, calibrate, and monitor air movement and room pressure in your facility.
- Provide on-the-spot confidence and safety for a fraction of complex ineffective facility-wide systems.

Design Engineers & Product Manager

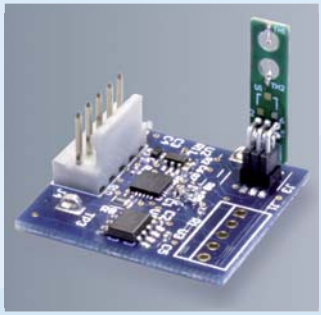
- We create the architecture from sensor design to complete blower and control systems.
- Access our 16+ years in building systems management, HVAC, and medical product industry.
- Utilize our on-site compliance director to help you navigate the vast array of regulatory groups.
- Gain insights developed by our in-house CFD analysis team when designing your next cabinet or ductwork system.

ATM2400 & USB Series Sensors

- Validate thermal & airflow models quickly & accurately
- Measure air & temperature in multiple locations simultaneously
- USB connection to PC

F400 HVAC Sensors

- Thermal airflow sensor
- Sensitive to changes in air density
- Indicates very close to actual air velocity and minimum compensation



PCB Mounted Reference Sensors

- Provides fully linearized air velocity & temperature
- Excellent accuracy & repeatability
- Dedicated, configerable alarm on velocity or temperature

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